Patent Claims

1. An arrangement for inserting Ethernet signals in an STM-N signal in the synchronous digital hierarchy (SDH) with a decoder (DEC) for reduction of the data rate of an Ethernet signal (E1) applied to its input,
having a first multiplexer (M1) for forming data words from the data emitted from the decoder (DEC) and from the associated monitoring information,
having a unit (M) for forming a first signal sequence (VC-4) with a predetermined bit length from the data words applied to an input of the multiplexer, and
having a second multiplexer (M2) for combining at least one first signal sequence (VC-4) and adding control and administration data formed by an STM-N frame.

2. An arrangement for recovering Ethernet signals inserted into STM-N frames of the synchronous digital hierarchy (SDH),
having a first demultiplexer (DM2) for forming at least one first signal sequence (VC-4),
having a demapper (DEM) for forming an Ethernet signal at a reduced data rate,
having a second demultiplexer (DED1) for forming data works and associated monitoring information, and
having an encoder (ENC) for forming an Ethernet signal.

3. An arrangement for transmitting Ethernet signals having the features of claims 1 and 2.

4. The arrangement as claimed in claim 3,
characterized
in that a scrambler (SCR) is provided for

scrambling the data between the first multiplexer (M1) and the mapper (M),

in that a descrambler (DES) is provided between the first demultiplexer (DM2) and the second demultiplexer (DED1).

5. The arrangement as claimed in claim 1,
characterized
in that the first multiplexer (M1) forms data words with a data word length of 9 bits.

6. The arrangement as claimed in claim 1,
characterized
in that the unit (M) for forming a first signal sequence (VC4) with a predetermined bit length forms a contiguously concatenated signal (VC-4-8c) or a virtually concatenated signal (VC-4-8v).

7. A method for inserting Ethernet signals into an STM-N signal of the synchronous digital hierarchy (SDH) having the following method steps:
in that a reduction is carried out in the data rate of the Ethernet signal,
in that after the reduction of the data rate, the data and the associated monitoring information are combined into data words, and a first signal sequence (VC-4) with a specific bit length is produced, and
in that an STM-N signal is formed from at least one first signal sequence (VC-4) and control and administration data (OH) associated with an STM-N frame.

8. A method for recovering Ethernet signals inserted into STM-N signals of the synchronous digital hierarchy (SDH), having the following method steps,
in that a first signal sequence (VC-4) is extracted from the STM-N signal,
in that an Ethernet signal at a reduced data rate

is formed from the first signal sequence (VC-4),
in that data words and associated control information are
formed from the Ethernet signal at a reduced data rate,

and in that the data words and the associated monitoring information are used to form an Ethernet signal.

9. The method as claimed in one of the previous claims, characterized in that the line of an STM-N frame is broken down into a 9-bit structure, with the 9 bits of user data being placed synchronously in the STM-N frame.

10. The method as claimed in claim 7, characterized in that the first signal sequence (VC-4) is broken down into four subgroups, with the first three subgroups being identical, in that the first three subgroups each start with a first 9-bit stuffing monitoring information item C1, and end with a second stuffing monitoring information item C2 and with two user data groups D, in that user data (16D) and blank information (FS) are arranged between the first and the second stuffing monitoring information items (C1, C2).

11. The method as claimed in claim 10, characterized in that the user data (16D) in each case comprises 144 bits and is bundled to form groups of 16 x 9 bits.

12. The method as claimed in claim 10 or 11, characterized in that the user data is terminated by blank information (FS) between the stuffing monitoring information items and the user data which directly follows the stuffing information items.

13. The method as claimed in claim 10,
characterized
in that a fourth subgroup starts with a stuffing information item S1 and ends with a stuffing information item (S2), a user data group (D) and blank information (FS),
in that user data (16D) and blank information (FS) are arranged between the first and second stuffing information items (S1, S2).